Ø BEAT

SPECIAL SERVICE CLUB

COLORADO SPRINGS, COLORADO

JULY 1986

FIFTY CENTS AN ISSUE / $4 PER YEAR

PIKES PEAK RADIO AMATEUR ASSOCIATION, INC
P.O.Box 16521
COLORADO SPRINGS, CO 80935

FIRST CLASS MAIL

Ø BEAT

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* Denotes 2 year term beginning October 1984

ZERO BEAT is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Inc., P.O. Box 16521, Colorado Springs, Colorado 80935. Cost is 50¢ per month for non-members or a $4.00 per year subscription. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles is the 21st of the month. Classifieds accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at Giuseppe's Depot Restaurant at 10 S. Sierra Madre at 7:30 p.m. All amateurs and interested parties are invited to attend.

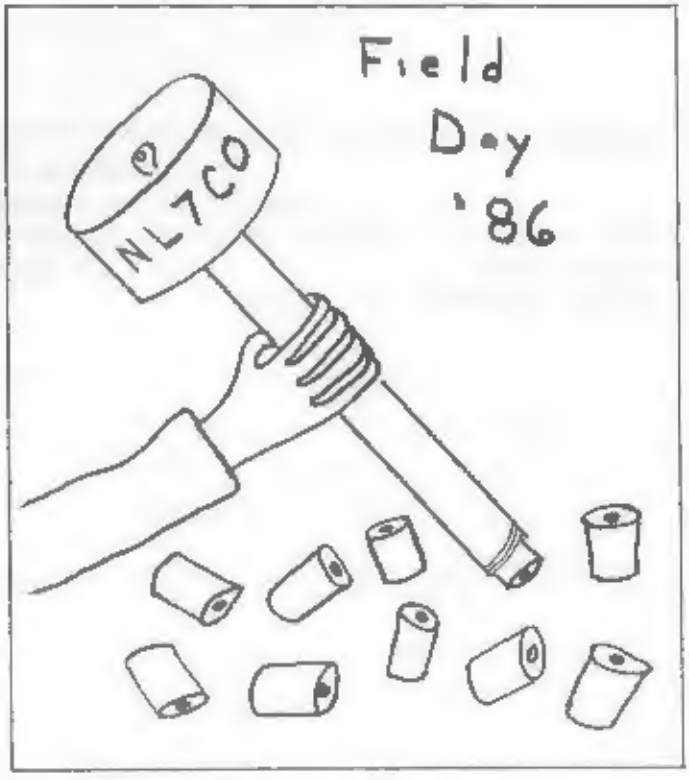
Editor: Phil Somers VE1ARC, 1075 Allegheny Dr. Colorado Springs, CO 80919 590-7136

EDITORIAL NOTES

The last weekend in June has come and gone, and with it, Field Day 1986. For all those who participated with the PPRAA, your thanks is all the fun and enjoyment you had. For those who couldn't make it, you should start planning now for next year. Conditions seemed to be quite good. Every station that was set up made lots of contacts. There was a variety of operations including an HF CW and an HF BSB combination in class 2A. Al NOCMW found good conditions on VHF with his impressive station and antennas. The novice station looked real nice and the operation was very smooth. As well, we had a packet station, and a computer dupe and logging system. The detailed results and hopefully some photographs will be featured in August Ø-Beat.

Thanks for the help in choosing the best article in May and June Ø-Beat. The result was a tie between Jim WA9ABB and Ron NKØP. Although that was a good deal this time, next quarter we will have a tie-proof system with 1st, 2nd and 3rd prizes. Thanks also for the good Ø-Beat suggestions on the ballots. One of the best ones was for a Board members' column rotating through your elected officials each month. We hope to start that with the Presidents Column in August. Someone suggested more "interview" articles such as the one on Oak's 50 years. Any volunteers to get interviewed? Chris WBØDHU has offered to write an antenna column based on answering readers questions. Please get some good questions to Chris to get his column started. Someone even suggested a crossword "puzzel". Another suggestion was for a "for sale" or "for swap" page. Several people suggested more technical articles such as those provided by Ken WA6TTY. One person offered to try to compile "A History of Field Day". And there was a call for more Novice articles. So lets work on those good suggestions, and win a prize in September.

"LOCAL QRM"



"VIEW FROM THE PEAK"
by George Hinds, N8CIX

Mid-May saw the wife and I ride off Northwest - EXPO 86, particularly "STEAM EXPO 86", was our goal. Since EXPO is devoted to communications and transportation, both themes in which I have more than a casual interest, you can understand how I had set my sights for Vancouver, BC, for the past many months.

Maybe those of you active on HF have already worked the EXPO official amateur radio station - VE7EXPO (that's right, a four-letter suffix call!) If so, you should get a QSL card to verify the contact. Let me tell you, friend, that is some station - a ham's dream...

It is a complete ICOM station: among the rigs I spotted were 2, 220 and 440; two HF transceivers, 2 HF receivers, a 1.2 GHz rig, a packet station, a satellite station, a SSTV station and, last but not least, RTTY. There were a couple of computers on board, too. All of this in a beautiful, custom-crafted, multi-operator panel set up inside CANADA PLACE at the north EXPO grounds on Burrard Inlet, right in the heart of downtown Vancouver. Hidden way up high in the "sails" of the building (you've no doubt seen pictures - it looks somewhat like a sailing ship when viewed over the horizon of the city) is the amateur antenna farm. With a location like this, amateur radio will be viewed by millions by the time EXPO ends in October 86.

Several of the folks I talked with enroute driving through Oregon and Washington were quick to tell me that the hams in British Columbia, when they take on a project, spare no effort to make it an outstanding success. After seeing their station, and realizing the dedication it has taken, and will continue to take, to keep it operating from opening day (May 2, 1986) to the final closing (October 13, 1986) one must compliment their dedication to the cause of promoting amateur radio.

On VHF-UHF, they used the VE7RPT repeaters on 2, 220 and 440 mHz. The 2 meter and 440 repeaters were linked, with the 2 meter input having priority to favor the visitors (who would more likely be on 2 than on UHF) and so could easily break in and get assistance even though EXPO-related stations are using the system through the 440 input.

If you plan to visit EXPO, be sure to take along a rig of your choice - you'll find plenty of opportunity to talk to the folks around the area, for they must be some of the friendliest ham operators on this continent. If you're mobile and need directions, they'll drive out and meet you to help.

Well, maybe you want to know something about EXPO (and STEAM EXPO, too). The parade of steam locomotives on the 23rd of May was a true extravangaza: about 20 engines, all under their own power, dating back to a replica of the earliest JOHN BULL from England, up to the ROYAL HUDSON of more recent times (that now regularly powers the daily tourist trips out of North Vancouver). Their running display route took them over about 5 miles of track into the heart of the city in front of CANADA PLACE on the waterfront. Spectators in the tens of thousands lined the tracks, hung out of office building windows, and leaned over the ramparts of building roofs, to get pictures of the proud old steamers whistling and puffing their way to the waterfront and return to the EXPO grounds display site at the Canadian National RR yard outside the east gate of the fair.

As to EXPO itself — in my opinion, it's a grand, exciting world exposition. About 54 nations are represented in some manner on the grounds; you can walk about, or ride monorails, cable cars high in the sky, ferryboats on False Creek, or rent electric carts available for the handicapped. The second EXPO site at CANADA PLACE is about 3 miles from the main site on False Creek, so free rides on the new ALRT Vancouver rapid transit are provided to EXPO visitors to get back and forth.

Security personnel are everywhere, uniformed for easy recognition and all carrying walkie-talkies - some are on UHF, others on VHF. None that are visible were armed, except for the regular Vancouver Police Department staff on duty. Members of the Royal Canadian Mounted Police are on hand to put on a daily show of horsemanship - dressed in

the traditional flaming red tunics that we all remember from movies in days gone by.

Because EXPO is proving to be such a stunning success, drawing crowds beyond all expectations, be prepared to stand in line often. This is a show that will be remembered for years as having one smash hit exhibit after another (one not to be missed is the Canadian National Railway 3-D IMAX theatre at CANADA PLACE - a first ever for this type of film presentation - where you will put on glasses and, as the screen comes alive, reach out and almost touch the trees, the canoes, the trains, planes and ships and their occupants as the history of Canadian communications and transportation is briefly (all too briefly, I found) presented in a visual spectacular billed as one of the most popular exhibits).

Each week at EXPO features a different theme: in additon to railroads, there is an aviation week (with a fly-over of about 50 DC-3's!), a trucking week, a boating week, a space week, and on and on. Something for everyone. All about the grounds, each day and night, free entertainment is provided by bands, dancers, magicians, Indian artists, etc., etc. If you decide to go, wear comfortable clothes, travel light, have plenty of film (or video tape), be prepared to see many people from many countries talking many languages. Thought: If it's so easy for folks from Russia, China, the United States and so many other countries to meet amicably in Vancouver, isn't there a possibility their nations could exist in friendship away from Vancouver?

We found motel space available if one did not wait until afternoon upon arrival (though we did have advance reservations). There are more than 100 food establishments on the grounds, most of them representative of the nations participating in EXPO, so you gourmet diners can try out dishes from around the world. (The favorable dollar exchange rate is a boon, too; it makes the somewhat higher than usual prices more reasonable to American visitors.) Our mistake was planning for a 3 day EXPO visit; we were able only to see about one-fourth of the major exhibits. Seven to ten days should allow you to see almost everything. We may go back again; it's that good...

Vancouver, reputedly one of the three most beautiful cities in the world, is always worth a visit. They are far advanced in planning for a "brown cloud-free environment." I was told no freeway type highway is permitted into the city proper - all exits and entrances from the Trans-Canada Highway go into the fringe areas and traffic is dispersed into city streets that seem to be able to handle the flow quite adequately. They have not found it necessary to destroy miles of businesses and homes to create "Interstates" with the problems such highways bring to cities and taxpayers. Moreover, public transit travel is encouraged and widely used to reduce traffic and pollution in the city (the new ALRT rapid transit, totally automated with no driver or ticket-takers aboard the trains, is a pleasure to ride and also offers a great view of the city from its place above the streets until plunging underground for the final mile or so into the heart of downtown.)

Well, that's it for now. If I've whetted your appetite to go northwest yet this summer, that's good. If you go, be sure to visit the hams at VE7EXPO in CANADA PLACE - they welcome visitors, and especially amateurs, from the world -- at EXPO 86. 73, George N8CIX/Ø

POSTSCRIPT:

Now, how about operating your rig when in Canada? Nothing to it - reciprocal privileges exist between our countries, so your U.S. license covers you in Canada for amateur radio. However this is not so for CB; a permit is required from the DOC for that purpose.

If you drive there, carry your drivers license, the vehicle registration and the special yellow insurance card you can obtain from your auto insurer that must be carried while in Canada.

You should carry proof of your U.S. citizenship, especially so for re-entry to the U.S. Handguns may not be carried into Canada. Seat belts must be worn by drivers and all passengers. Radar detectors are prohibited in many provinces. In conclusion, remember that Canada uses the metric system, so the roadside speed sign that says "90" is not milesperhour!

Enjoy! 73, George N8CIX/Ø

VHF AND ABOVE

by Ron Deutsch NK0P

June has been a very busy month on the VHF bands. On June 11th 2 mtrs opened up to the southeast with Mississippi and Louisiana sounding like local stations!

The June VHF contest on June 14th and 15th started out very slow but by Sunday morning 6 mtrs was open to Just about everywhere! WB0DRL in Salina, KS. reported over 400 QSO's and 174 grids worked! QSO rates of three per minute were common! If we have an opening like that on Field Day Al might beat the HF stations score!

50 Years ago: The 6th (1935) Sweepstakes contest had an enthusiastic turnout, but todate no station has ever worked all sections despite the full 10 days of operating time. During the June contest KX0O reported working all US sections on 6 meters in the 2 day contest.

The ARRL UHF contest will be held on August Sat. Aug. 10th starting at 1800 UTC and ending at 1800 UTC on Sunday. All frequencies 220 MHZ and above can be used.

ARRL is now accepting applications for VUCC on the microwave bands an SASE to the league brings info and an application.

73's till next month C U on the bands Ron, NK0P

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##########################################
#                                        #
#     HAM RADIO SATURDAY BREAKFAST       #
#                                        #
#     Start your Saturday off right by   #
#     joining your ham friends for       #
#     breakfast and rag-chewing.         #
#                                        #
#  PLACE: Village Inn Pancake House      #
#         Academy and Palmer Park        #
#         Colorado Springs               #
#                                        #
#  TIME:  Approximately 7 AM - 9 AM      #
#         Some come earlier and stay     #
#         longer.                        #
#                                        #
#  FREQ:  146.52 usually monitored,      #
#         plus local repeaters.          #
#                                        #
#  We often have up to 40 people attend  #
#  from a variety of clubs in the area.  #
#  You need not be a member of any to    #
#  attend. All are welcome and urged to  #
#  join the fun. See you on Saturday.    #
#                                        #
##########################################
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THE FOLLOWING INFORMATION WAS MADE AVAILABLE TO THE PACKET COMMUNITY BY: WOVD, ED IN COLORADO SPRINGS, CO.

6 June 1986 AMSAT
AO-10 Fault Diagnosis Begun

After nearly three years in orbit, AO-10 has suffered a serious malfunction. The Integrated Housekeeping Unit (IHU) experienced a memory malfunction Saturday, 17 May. The IHU is a computer that mediates overall spacecraft operation under software control. Now, diagnosis of the specifics of the malfunction has begun according to Command Station Ian Ashley, ZL1AOX.

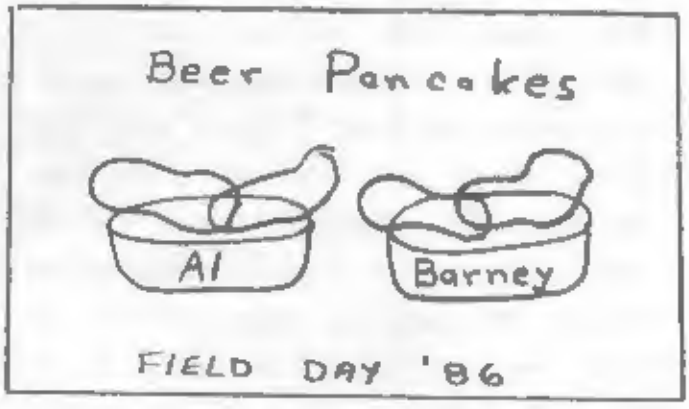
According to Ian, a memory test routine was loaded into the IHU on June 1st at 22:30 UTC. During the next 2 days the addresses of the faulty cells were dumped. It required an unusually long period to dump the addresses of the faulty cells. It now appears all even addresses indicate an error.

This indication is inconsistent with the general hypothesis that a radiation-induced memory fault is to blame. The result of the initial dump indicating all even addresses in error is thus being attributed to a "stuck" bit in the error correcting matrix rather than a generalized, catastrophic memory failure. Adjacent bytes also showed errors especially near the top of memory. Karl Meinzer, DJ4ZC, is now studying this preliminary finding. Further details of his analysis may be available the week of 8 June.

The general recovery plan envisions diagnosis and restoration of service approximately by month's end. Meanwhile, spacecraft sun angles remain excellent so there is no current concern for the battery voltage. In fact, ZL1AOX says the Mode B transponder may be on at times. When it is on, careful use is permitted. This means QRP only. That is, less than 100 watts EIRP. The IHU routines to monitor and control high temperature and low battery voltage are not presently running so manual control is required. Unbridled use of the transponder must be studiously avoided, therefore.

AO-10 will experience perigee eclipses each orbit for the next 2 months. Until the end of June the eclipses will start between MA 7 to 9 and end between MA 14 to 22. During eclipse, both BCRs will be off and the battery voltage will drop to about 12.5 volts after 40 minutes of darkness. At present only BCR-1 is active during sunlight. The BCR-SERVICE routine is currently the only active software module running on AO-10. All other routines are loaded but will not be executed until the memory tests are completed.

"LOCAL QRM"



SADDLE MOUNTAIN CLUB PICNICS PAST

There have been four August picnics for the PPRAA held at the Saddle Mountain cabin of Oak, K[illegible]OL, starting about 1976. Each time, there was a log-in on the wall of the "little cabin." Many members have since changed their callsigns. Check the list below for your own and/or old friends from past years. listed in chronological order.

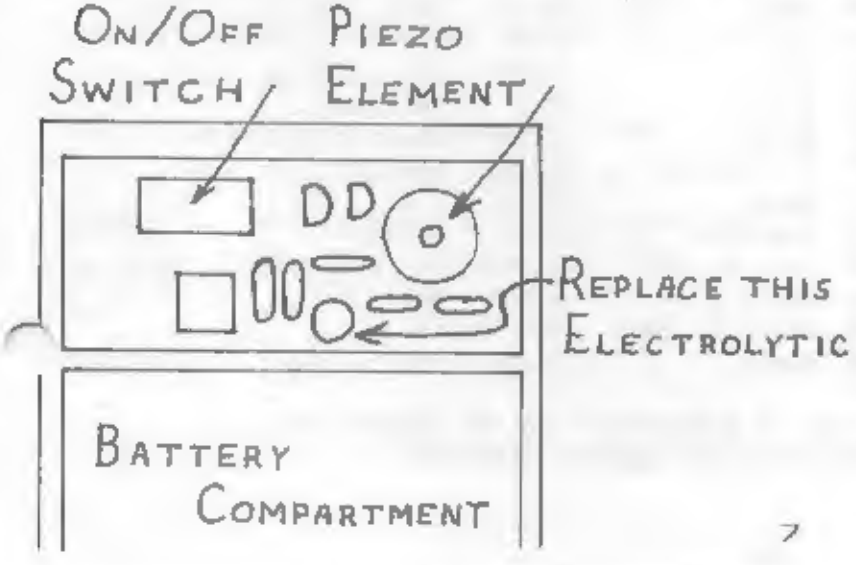
KØROL	WBØKJB	WBØKDN	WØLKD
WØQN	WØNR	WAØLRK	WØTGL
WAØYOH	WØPT	WØKJW	KØUDG
WAØNTA	WBØLTV	WAØZCS	WBØRRU
W2UCD	W8LWM	KØOSN	WBØPAJ
WØMBZ	WBØOXA	WBØKSW	WAØAEH
KØTER	WBØQOT	WBØTLP	WBØTIC
WBØTLQ	WBØSSG	WBØQCJ	WBØGTL
WBØOTZ	WBØQPQ	WBØOYX	WBØOAA
WBØYNC	WØVO	WØMOG	WØPCZ
WBØLTV	WBØOOW	WBØTIB	WØOH
WBØPNX	WBØUUN	WDØBTF	WBØNXY
WAØZEB	KØPZE	WBØMHP	AAØL
W6BDE	W6KHM	WDØBSZ	ADØZ
WDØFXR	WBØYEO	WBØDUL	WDØGFA
WØMCT	WØJAW	WBØWDF	WØPTJ
WBØDUV	AH6AP	NØEPF	NØDDF

Oak again extends welcome for the 1986 PPRAA picnic, if the Board so decides. A large parking area is available for campers and RVs. You're welcome to stay overnight.

EL CHEAPO CPO
by Rick Brown, KDOSU

One day while wandering through the local Radio Shack looking for bargains that I couldn't do without, I found a neat little continuity tester (Radio Shack part number 277-1014). Since it was on sale for some ridiculously low price (under a dollar), I decided to take it home to see what I could do with it. The full price was only $1.95, so it won't dent your wallet very much if you don't happen to find it on sale. When I got home and opened it up, I discovered a little piezo element and a two-transistor drive circuit. I put in a nine volt battery and voila, it made a great little beeping sound. Thinking that it could be turned into a code practice oscillator, I set out to modify it just a bit. Unfortunately, a long series of beeps doesn't make for very good CW. After a little experimentation, I found that all I needed to do was to remove the electrolytic capacitor that was part of the time constant for the beeps, and replace it with a 33k ohm resistor. This is the only electrolytic so it is easy to find. That change gave me a nice loud continuous tone. It is probably possible to change the tone by varying the value of that resistor, or one of the others in the circuit, but I quit when I got it to that point. I am a firm believer that if it works, don't mess with it.

So there you have it, a cheap little CPO to give to a friend who is trying to get a Novice license or upgrade or whatever. If you are as cheap as I am, you can get a free battery each month to go with it. No, I don't work for the Shack! Also, you can still use it as a continuity tester if you like to test continuities! Have fun and experiment. That is what ham radio is all about, isn't it?



CLUB PICNIC ON AUGUST 10
(in lieu of regular meeting)

PLACE: Oak's (KOROL) cabin.

SIGN-UP: At July club meeting. Indicate if you need or can provide a ride. See a board member if you will miss the July meeting.

CAMPING: Oak says you can camp overnight.

DETAILS: July club meeting.

NEED: Rene KAORDY is organizing activities for kids & needs about 10 gunny sacks, ropes, old socks and rags, etc. See Rene with help or ideas.

JULY MEETING

The next regularly scheduled meeting of the Pikes Peak Radio Amateur Association will be held on *Wednesday, July 9* at 7:30 PM at Giuseppe's Depot at 810 S. Sierra St. The tenative program will feature a presentation on *Lightning* by Brad KDOVM.

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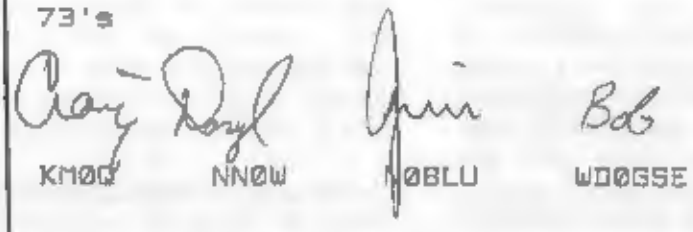
Your response has been tremendous! Because of this we are pleased to announce that we are expanding to larger and more convenient facilities to serve you better. We will be moving about June 10 to 525 E. 70th Street with easy freeway access and within a few yards of the intersection of I25, I76 and the Boulder Expressway.

Our new local phone number will be 288-7373. Please pardon any delays during our move and thanks For your support!

73's



KMØQ NNØW NØBLU WDØGSE

P.S. You guessed it! Our new location will have ABSOLUTELY NO CITY SALES TAX!

(PACKET STATIONS IN COLORADO SPRINGS *** ** *)

ADØØ	Tom	AI6C	Fred (@ .09)	KØHDA	Dave (*** .01/.09)
KØRØL	Oak	KØTER	Mike	KØUZP	Rick
KAØROX	Steve	KAØTTF	Bill	KBØWX	Dick
KCØBU	Bob	KCØDK	Chuck	KCØNC	Lee
KCØRL	Dle (@ .09)	KDØVM	Brad	KE9S	Malcole
KQØH	Bill	NØADS	Byron	NØCCZ	Andy (@ .01/.09)
NØCCZ-1	(* .01)	NØCMW	Al (@ .09)	NØENN	Norm
NØFBB	Lyle	NØFJJ	Gene	NØHAP	Jim
NRØØ	Bob	WØVN	Charles	WØYNE	Warren
WA7HDØ	Dick	WA9ABB	Jim (@ .09)	WBØBLV	Lee (** .09)
WBØDUL	Dick	WBØKDN	Larry	WBØLGC	Mike
WBØLWN	Carlos	WBØSDW	Dave (@ .09)	WBØYNB	Mac
WDØFHB	John	WDØFRJ	Harry	VE1ARC	Phil

Note: The NØCCZ-1 Digi is located on a mountain top at 14,000 feet. It provides coverage for a large area of eastern Colorado.

HAM LICENSING

VE Program, Colorado Springs

VE testing for the purpose of obtaining or upgrading an Amateur Radio Station /operator license, sponsored by the Pikes Peak Radio Amateur Association, will be conducted on Aug 16, 1986 at the First United Methodist Church located at 420 N. Nevada Ave., Colorado Springs, starting at 9:00 A.M. PRE-REGISTERED applicants and WALK-INS are welcomed.

Instructions:

A. PRE-REGISTERED Applicants must mail:
   1. Completed current FCC form 610.
   2. Photocopy of current license.
   3. A check or money order for $4.25 payable to ARRL/VEC.
   4. The above must reach the volunteer examiner team contact by 11 Aug 1986.

   Send application to our team contact:

   Peter LaFosse - NOLA
   5750 N. Meridian Rd.
   Peyton, CO 80831

B. WALK-INS must bring to test site:
   1. If currently licenced, your current licence.
   2. A photocopy of your current license.
   3. A check or money order for $4.25 payable to ARRL/VEC.

NOTE: All applicants will be required to provide photo proof of identification at time of examination.

Handicapped applicants should notify the team contact immediately so that appropriate procedures can be coordinated.

For further information, please contact either Ron Deutsch NKOP 593-8352 or Peter LaFosse NOLA 495-4829.

Membership in PPRAA or the ARRL is not a requirement for taking the above test.

Talk-in will be on the 146.37/97 repeater.

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SWAPFEST-CAMPOUT

Mountain Amateur Radio Club

Saturday - Sunday July 26-27
Red Rocks Campground - 3 miles North
Woodland Park, Colorado

- Pot Luck Dinner Saturday Night
- Bring own meat plus pot luck dish
- Bring own table or tailgate
- You may arrive Friday evening to camp
- $5.00 per nite per space to camp/sell
- No double charges
- Snack bar available
- Over $1000. in door prizes
- 1st prize - Icom 735
- 2nd prize - Icom 04AT
- 3rd prize - MFJ Keyer + Bencher Paddle

- Talk-in 144.56/145.16, 146.52, 37/97
- Reservations: Joe-NOCMD 687-3641
  Jack-WOJAW 687-2146
  or Box 151, Woodland Park, CO 80866

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$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$                                           $
$      PRIZE FOR BEST ARTICLE ! ! !         $
$                                           $
$ There will be special prizes for the      $
$ members who submit the best articles      $
$ that get published in  O-Beat in          $
$  ----July----August----September----      $
$                                           $
$     First prize:   Club Jacket            $
$                                           $
$     Second prize:  Club hat               $
$                                           $
$     Third prize:   Club name tag          $
$                                           $
$   Judging will be by all the members      $
$   present at the September meeting.       $
$                                           $
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
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*******************************************
*                                         *
*            GARAGE SALE                  *
*                                         *
*        July 11th   7AM - 7PM            *
*                                         *
*         Lots of ham radio               *
*     and electronic related items.       *
*                                         *
*           Ron NKOP                      *
*           6050 Del Paz Dr.              *
*           Colorado Springs, CO          *
*                                         *
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MINUTES OF JUNE GENERAL MEETING
submitted by Al NOCMN, secretary

The general meeting of the Pikes Peak Radio Amateur Association was held at Giuseppe's Depot Restaurant, Wednesday evening 11 June 1986. Meeting was called to order by the president Lee KCONC at 1930. We had 43 members and 18 guests present. All members and guests were asked to introduce themselves and offer any suggestions they had for Field Day. The most frequent suggestion was to have it closer to town. The minutes of the last meeting were approved as printed in O-Beat.

Committee Reports

Treasurer - Bud NODDF: $1752.40 income and $1950.96 from Swapfest, with expenses of $845.67 leaving a balance of $2857.69

RFI - Ron NKOP: Several cases under investigation.

Field Day - Tom AD0D: 27-29 June. Need transportation for club trailer and equipment to site. All who plan to attend sign up on sign up sheet so can plan breakfast.

SWAPFEST - Ron NKOP and Jim NA9ABB: Requested info from members on how to spend money made on Swapfest. It has to be documented and spent in one year. Please let any board members know of any ideas The winner of the raffle at SwapFest it was Doug WBOMHP.

Teller County Hill Climb - Doc WOMCT: Thanks to all who helped. There will be another in September.

Pikes Peak Hill Climb - Malcolm KE9S: Gave further details on the hill climb on 12 July 1986. Safety class attendance on June 17,19,21,23,25,27 is required.

Colorado Council of Amateur Radio Clubs (CCARC) - Bud NODDF: Nothing to report.

Public Service - Mike KOTER: Nothing to report.

Deaf and Blind School - Jim WA9ABB: School is closed for summer. Working with one student weekly at his house.

Beat - Phil VE1ARC: There will be a voting on best article in O-Beat this evening.

ARES - Jake N0CYR: Nothing to report.

Club Trailer - Pete N0LA: Need sign painter.

Public Relations - Ron NK0P: Need some help with the editor of the Bazette.

New Business:

Malcolm KE9S made a motion for the club to rent a motor home for the control center for the hill climb. Total up front for deposit etc, was about $580.00. After return of motor home total cost to the club would be approximate $180.00. This motion was defeated.

Al N0CMW reported that he had received a phone call from Darla Richardson, Rocky Mountain ARRL. Special service clubs presenative for this club to take over awards represesenative for the Rocky Mountain division. After discussion, Al was instructed to get more info and report back at next meeting. Al volunteered to chair it with Don NL7C0.

Best article in O BEAT voting declared a tie between Ron NK0P and Jim WA9ABB. After a discussion with members, it was decided to award both of them the same prize, club jackets.

The planned program was cancelled do to running late. Presenter offered to give it at some other time. Meeting adjourned at 21:45.

Prizes - Don WD0HWS: Winners were:

WB7THT	Rick	$10. Centennial cert.
N8CIX	George	Club jacket
WD0BSZ	Don	Club jacket
W2SRQ	Bill	Repeater/FM book
K0RDL	Dak	$10. Walker cert.
N0LA	Pete	Antenna mast mount
[illegible]FRQ	Ken	FCC rule book
wd0LTV	Smitty	ARRL book (to novice)
WA6TTY	Ken	ARRL book (to novice)

MINUTES OF JUNE BOARD MEETING
submitted by Al N0CMW

Meeting was held at Giuseppe's at 1900 Monday 17 June 1986. The following were present: Les KC0NC, Don WD0HWS, Al N0CMN, Bud N0DDF, Jim WA9ABB, Dak K0RDL, Ken WA6TTY, Jody KA0RDZ, Rene KA0RDY. It was decided to have the club picnic at Oak's cabin on 10 August 1986. Sign up will be at next meeting. Also on sign up, indicate if you need a ride or can give someone a ride. Overnight camping will be allowed by Oak. Picnic will take the place of the regular August meeting. Jim WA9ABB volunteered to be on bylaws committee. We received a sample from ARRL and a copy of the South Bay Amateur Radio Club.

A discussion was held on the purchase of a portable QUOTE PORTABLE repeater to be used on special events, to be possibly housed in the trailer. Les was directed to tell the committee to work on this to possibly have it up and working by the Enduro in September. Les was directed to make an update to roster with 100 copies. Had a discussion on couple of members ideas for spending profit from raffle at SwapFest.

Phil requested discussion on prize selections for July, August and September best O-Beat article. It was decided to have a 1st, 2nd and 3rd prize (jacket, hat and badge resp.). A suggestion was made on dues. A motion was made and passed. The change was for a fee of $8.00 for over 65 and under 18 for single memberships. Malcolm still needed help for the hill climb. Secretary was directed to get the letter off to Darla on awards proposition. A budget for field day was discussed. It was decided to fund it for $250.00. It was decided for the O-Beat editor to give Giuseppe's a free add in O-Beat. Discussion on club monthly raffle. It was decided to let the vice president run it the way he wants.

The next meeting of the board will be at the home of Phil VE1ARC on 14 July 1986. The meeting was adjourned at 21:15.

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NEW EQUIPMENT IN STOCK

New Kenwood TS 440S $819 w/AT installed $940.
Kenwood TS 940S $1595. w/auto tuner $1750.
Kenwood TS 430S w/FM board $699.
Kenwood TS 830S $839.
PS 430 Power Supply $134. — PS 30 $125.
Kenwood PS 50 power supply $179.
Kenwood AT 250 auto antenna tuner for 430S $290.
Kenwood AT 130 tuner $125 AT 230 Tuner $170
Icom 735 $735
Icom 745 $819.
Yaesu FT 757GX $750.
New "Amp Supply" LA 1000NT 160-15 meter 1200W PEP-800 DC QSK, no tune up, drives with 100W-list $529 - SALE $479
Amp Supply LK500ZB w/o QSK in stock w/10 meters $950
Kenwood 4000A 2m & 440 FM Xcvr Sale $519
Kenwood TR 3600 440 MHz HT $325.
Kenwood TR 2600A new HT w/extra battery $298
New Kenwood TR 751A 2 meter all mode $519.
Kenwood TH21AT $209. TH41AT $219 — both with free extra battery
Kenwood TM 2570A 70 watt 2 meter FM mobile $479.
Kenwood TM 2550A 45 watt 2 meter FM mobile $389.
Kenwood TM 2530A 25 watt 2 meter FM mobile $349.
Santec 20T w/2 number memory dialer $285 w/additional $10 factory rebate.
Complete line of Tokyo High Power amps, preamps & tuners at lowest prices.
New Azden PCS 5000 $285.
Icom 2AT HT Reg. $269 Now $205.
Icom 02AT $299.
Icom 4AT $245.
Icom 04AT $339.
Icom 27A $348/Icom 27H $378.
Icom 47A $425.
Icom 3200 2 meter/440 dual bander $499.
Daiwa Meters, Switches & Rotors - In Stock
Mirage Amps - Low Prices - In Stock
New KDK FM 240 mini 25W w/TTM & LED display, encoder/decoder $320 w/o tone $290.
New Yaesu FT 209RH 5 watt FM HT $299.
Yaesu FT 2700RH 2 m-70 cm dual bander full duplex-free encoder $519.
Now a factory dealer for Ten Tec — In stock specials:
Corsair II HF xcvr. $995.
Century 22 HF CW xcvr. 349.
KR1B dual paddle memory keyer $84.
New generation Ten Tec 2593 2 m HT $259.
Astron PS — ALL AMPS — Low Prices - Astron RS 50 and V50 In Stock
Butternut HF6V 80-10 mtr. vertical $115. 160 mtr. adapter $50.
KLM 160V 160/80/40 vertical $88.
KLM 2M14C 2 mtr. circ. 14 ele. beam (oscar) $88.
KLM 435-18C 420-450 18 circ. 18 ele. beam (oscar) 118.
B&W AX5 160 shortened 160/30 mtr. dipole 95' long $94.
B&W AX5 80 shortened 80/40/15 mtr. dipole 64' long $94.
B&W AS 80 shortened 80/40/20 mtr. dipole 78' long $94.
Welz test meters in stock
New B & W VS 300 tuner-best 300W tuner for the price! Special $79.
Amp Supply LA 1000A Special $388.
Amp Supply AT 1200 Tuner Special $175.
Now a distributor for Ameritron Amplifiers - AL 80A - 1.3-500Z - In Stock $649
AEA CP-1 Computer Interface $210.
AEA PK 64 packet/cw/rtty etc. controller $210 — HFM $95.
AEA PK 64 system w/HFM 64 installed $310.
Factory Dealer for Kantronics — In Stock!
New Kantronics Packet Program-includes program for UTU
Kantronics Packet Controller version 2 w/HFM $195.
Kantronics interface for VIC 20 and others $125.
Kantronics Universal Terminal Unit. $165.
Kantronic Hamtext Hamsoft $89.
MFJ wet & dry dummy loads — in stock
MFJ Tuners and Keyers — in stock

MFJ 989 roller inductor tuner $288.
MFJ 962 1.5 KW tuner-160 to 10 meters $219.
New MFJ 1224 interface in stock w/free soft program $90.
MFJ 1229 interface w/free soft program $160.
In Stock! MFJ 1270 packet controller (TNC-2) clone $119.

USED EQUIPMENT

Kenwood TR 2400 $125.
Kenwood TH 21AT w/2 batteries $175.
Kenwood TR 2500 $195.
Kenwood TR 3600 - like new $375.
Kenwood TW 4000A - like new w/TU4C encoder $450.
Kenwood TS 520 $350.
Kenwood TS 520S $350.
Kenwood TS 930S w/AT - Demo - 5 hrs. operation $1050.
Kenwood TS 700A 2 meter all mode AC/DC $275.
Kenwood ST1 desk power supply/charger for TR 2400 $35.
(2) Kenwood AT 250 auto tuners $250 ea.
Icom PS 15 power supply $95.
Icom 740 $475.
Icom PS 20 p.s. $150.
IC 740 & PS 20 combo for $600)
Icom 2AT demo $150.
Icom 2AT $150.
Tempo S15 w/new extra battery $175 Tempo S1 $95.
KDK 2033 25W 2 meter FM w/overheating problem-as is $130.
Santec ST144 2 meter synth. HT w/10 memories-nice $175.
Yaesu FT757GX $550.
Yaesu 757AT auto tuner $195.
Yaesu FT 101E $375.
Yaesu FT 101EE $350.
Yaesu FT 101B $325
Yaesu FV 101B ext. VFO $75.
Yaesu FL2100B used, mint $325.
Tokyo Hi Power 30V 2 meter FM amp-nice $60
KLM 24N 440 amp $110.
KLM 2-140 2 meter FM only amp. 2 in/140 out $135.
KLM PA 10-35/C 440 FM amp. 5-15 in, 35 out $65.
AEA Isopole 440-good condition $30
AEA CP1/64 w/MBA TextPac $150.
Heath SB 220 amp - excellent condition $425
Heath SB401-301 twins $195.
Heath SB110 6 meter 100W ssb/cw w/p.s. and 3 el. Hygain beam $125.
Atlas 210X w/console power supply - Very Nice $295.
Drake T4XB, R4B, MS 4 ps/spkr $250.
Swan 350 - nice shape w/p.s., spkr. $150.
Radio Shack Color Computer II $100.
Wide selection of amateur antennas-base, mobile, HF, VHF, UHF at reduced prices. We stock most of the better antenna companies products.
We carry a complete selection of books by ARRL, Ameco, and the Callbook.
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NOTE:

Most Japanese manufacturers have increased prices and when distributors' present inventories are gone, prices will be climbing.

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Additional Names _____ Call _____ Class _____

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Associate Member $8.00 ☐ (Outside Teller & El Paso Counties.)